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## Notes on North American Hypocreales — II. *Nectria* *Peziza* \*

FRED J. SEAVER

(WITH PLATE 15)

*Sphaeria Peziza* was described by Tode in 1791, and while there is probably no type specimen in existence, the illustrations and descriptions by Tode seem, from our observations, quite definitive of the species. While many species of the present and closely related genera cannot be distinguished except by a close microscopic study of the spore-characters, thus rendering illustrations of gross characters, only, valueless, this is not true of the one here treated. Having observed and studied this species for the past five years in the field, covering an extensive range of locality, we find that there are few members of the genus, if any, which are more easily recognized on external characters. Add to this, on microscopic examination, the broadly-elliptical, septate, non-constricted spores with a distinct oil-drop in each cell, and the species would seem to be very well marked.

This is probably one of the most common and widely distributed species of non-stromatic *Nectria*, and, as is usually the case with species which are common and subject to more or less variation, has been much studied, greatly misunderstood, and many times redescribed. The perithecia in this species are large, compared with those of other species of the genus, ranging from one third to one half millimeter in diameter and nearly globose, especially when moist, with the ostiolum only slightly prominent. The color is from pale to deep orange, becoming deeper on drying, but often fading with age to very pale yellowish or whitish. The plants are usually widely scattered but occasionally crowded, giving somewhat the appearance of a stromatic form, but no true stroma is present. The perithecia produce no well-developed hairs but are often clothed with a growth of mycelial threads, which character seems to vary with conditions. Specimens col-

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\* Notes on North American Hypocreales — I, appeared in *Mycologia* 1: 19-22. *pl.* 2. 1909.

lected in good condition are nearly smooth but become more or less roughened with age. The variation is not great but is sufficient to have led to some confusion. The perithecia at maturity, especially when dry, almost invariably collapse from the top, becoming cup-shaped and in this condition very much resemble a *Peziza*, which fact has doubtless suggested the specific name. This latter character has been the cause of considerable confusion.

Most of the American specimens examined by Mr. Ellis have been referred by him to *Nectria vulpina* (Cooke) Ellis & Everh., while most of the foreign specimens examined by the writer have been referred by various authors to *Nectria Peziza* (Tode) Fries, but notwithstanding this fact close study of American and foreign material fails to reveal any difference. *Nectria vulpina* (Cooke) Ellis & Everh. was based on material collected at Newfield, New Jersey, and was first described by Mr. Cooke as a *Peziza*, a mistake which is likely to be made on account of the close resemblance of these plants to some of the cup-fungi. The species was later transferred to the genus *Dialonectria* by Mr. Cooke and still later to the genus *Nectria* by Saccardo, and still retained as a distinct species, although there was no reliable character by which it could be distinguished from the commonly recognized species *Nectria Peziza* (Tode) Fries. A specimen in the Ellis collection which is evidently cotype material of *Nectria vulpina* (Cooke) Ellis & Everh. has been closely studied with the hope of discovering some character by which it might be distinguished from *Nectria Peziza* (Tode) Fries, but except for a very slight variation in the size of the spores this is a typical specimen of the latter species, as are the other specimens in the same collection referred to this name.

*Nectria betulina*, which was described from American material, seems to be a form of the present species which occurs in cracks and crevices of bark, and, the perithecia becoming crowded, presents the appearance of a stromatic form. The perithecia and spores are typical of *Nectria Peziza* (Tode) Fries and I am unable to separate it from that species. *Nectria riminala* Cooke is a similar form. I give below a complete synonymy and description of *Nectria Peziza* (Tode) Fries, based on our own study:

- NECTRIA PEZIZA (Tode) Fries, Summa Veg. Scand. 388. 1849  
*Sphaeria Peziza* Tode, Fungi Meckl. 2: 46. 1791.  
 ? *Peziza hydrophora* Bull. Hist. Champ. 243. 1809.  
*Peziza Dasyscypha vulpina* Cooke, Hedwigia 14: 82. 1875.  
*Nectria rimincola* Cooke, Grevillea 11: 108. 1883.  
 \* *Nectria lasioderma* Ellis, Am. Nat. 17: 194. 1883.  
*Dialonectria vulpina* Cooke, Grevillea 12: 83. 1884.  
*Nectria Umbellulariae* Plow. & Hark. Bull. Calif. Acad. Sci. 1: 26. 1884.  
*Nectria vulpina* Ellis & Everh. N. Am. Pyrenom. 103. 1887.  
*Nectria betulina* Rehm, Ann. Myc. 3: 519. 1905.

Perithecia superficial, scattered, gregarious or occasionally crowded, globose or subglobose, usually collapsing from the top and becoming pezizoid, at first clothed with a scant covering of delicate, white, mycelial threads (no true hairs) which disappear with age, leaving the perithecia smooth or in very old specimens slightly rough and furfuraceous, 250–500  $\mu$  in diameter (mostly about 300  $\mu$ ), varying in color from pale to deep orange, color darker in dried specimens, weathered specimens fading to pale yellow; ostiolum minute, in young specimens just visible and in older forms depressed and inconspicuous; asci cylindrical or clavate, 8-spored, 50–75  $\mu \times$  5–8  $\mu$ ; spores broadly elliptical, obliquely 1-seriate or becoming crowded and partially 2-seriate, thick-walled, 1-septate, not constricted, with 1 large, conspicuous oil-drop in each cell, 10–14  $\mu \times$  4–6  $\mu$  (mostly 10  $\times$  5  $\mu$ ); paraphyses short, branched, not conspicuous. [PLATE 15.]

On decaying decorticated wood, more rarely on bark, fungi, and old hemp cloth.

TYPE LOCALITY: Mecklenburg, Germany.

DISTRIBUTION: New York to Ontario, North Dakota, California, and Louisiana.

ILLUSTRATIONS: Tode, Fungi Meckl. 2: *pl.* 15. *f.* 122; Bulliard, Herb. France, *pl.* 410. *f.* 2; Currey, Trans. Linn. Soc. 22: *pl.* 57. *f.* 44; Berkeley, Outl. Brit. Fung. *pl.* 24. *f.* 6; Greville, Crypt. Fl. 4: *pl.* 186. *f.* 2.

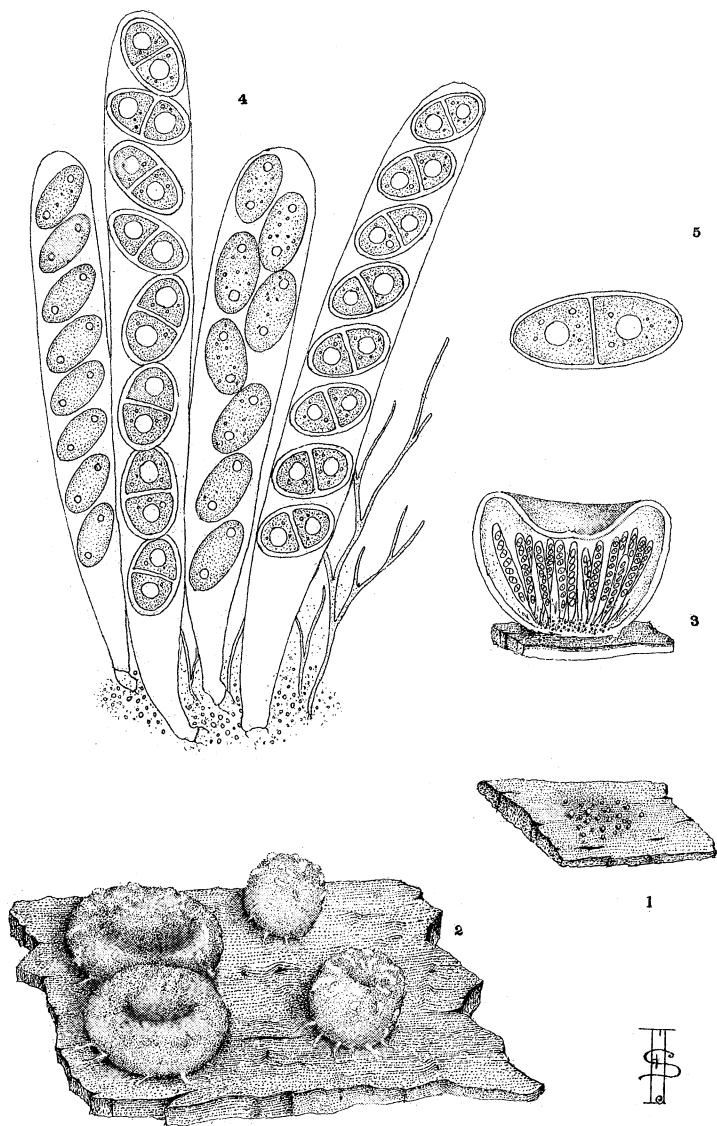
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\* The type of this species in the Ellis collection is so scant that scarcely a perithecium in good condition could be found, and it is impossible to make a thorough study of gross characters. The spores are typical of the above species.

EXSICCATI: Ravenel, Fungi Am. Exsicc. 644; Ellis, N. Am. Fungi 774; Wilson & Seaver, Ascom. and Lower Fungi 16. Other specimens examined: California, *Harkness*; Iowa, *Arthur, Seaver*; Louisiana, *Langlois*; Maine, *Harvey*; New York, *Atkinson, Brown, Seaver*; North Dakota, *Seaver* (various collections); New Jersey, *Ellis* (various collections); Ohio, *Hawkins, Morgan*; Ontario, *Dearness, Macoun*.

**Explanation of plate 15**

1. Cluster of plants, natural size.
2. Several plants,  $\times 50$ .
3. Diagram section of plant,  $\times 50$ .
4. Cluster of asci,  $\times 1200$ .
5. One spore,  $\times 2500$ .



NECTRIA PEZIZA (Tode) Fr.